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EXAMINER

AN, SANG WOOK

ART UNIT PAPER NUMBER

1732

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/747,639	Applicant(s) ERICKSON ET AL.	
	Examiner Sang W. An	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/26/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,4,5, and 9-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Mohiuddin (4282285).

Regarding claim 1, Mohiuddin teaches a method of making a molded article (10) (abstract), wherein the molded article comprises a paint layer and a polyurethane layer, said method comprising the steps of: applying a paint composition to a surface of a mold to form the paint layer; infusing the paint layer with a base; and adhering the polyurethane layer to the paint layer (col 2 lines 30-47 & col 4 lines 25-38).

Regarding claim 4, Mohiuddin teaches that the step of infusing the paint layer with the base is further defined as infusing the paint layer with at least 0.2 parts by weight of the base, based on 100 parts by weight of the paint composition (col 4 lines 23-24).

Regarding claim 5, Mohiuddin teaches that the step of infusing the paint layer with the base is further defined as mixing the base into the paint composition 20 prior to applying the paint composition to the surface of the mold (col 4 lines 23-25).

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Regarding claims 9, 10, 11, Mohiuddin teaches that the paint composition comprises urethane-based, acrylic-based, and vinyl-based compositions (col 2 lines 48-68).

Regarding claim 12, Mohiuddin teaches applying a mold release agent to the surface (22) of the mold (18, 20) prior to said step of applying the paint composition to the surface (22) of the mold (18, 20) (col 5 lines 5-8).

Regarding claim 13, Mohiuddin teaches that adhering the polyurethane layer (14) is further defined as spraying the polyurethane layer (14) onto the paint layer (12) into which the base has been infused and allowing a reaction to take place between an isocyanate component in the polyurethane layer (14) and the paint composition to increase the adhesion between the paint layer (12) and the polyurethane layer (col 2 lines 30-47).

Regarding claim 14, Mohiuddin teaches mixing an isocyanate component and an isocyanate-reactive component outside of the open mold (18) to form a polyurethane composition and applying said polyurethane composition to the paint layer (12), thereby forming the polyurethane layer (col 5 lines 19-20).

Regarding claim 15, Mohiuddin teaches mixing an isocyanate component and an isocyanate-reactive component in the open mold (18) to form a polyurethane composition and applying said polyurethane composition to the paint layer (12), thereby forming the polyurethane layer (14) (col 2 lines 40-47).

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Regarding claim 16, Mohiuddin teaches that applying the paint composition is further defined as applying the paint composition to the surface (22) of an open mold (18) (col 2 line 30).

Regarding claim 17, Mohiuddin teaches closing the open mold (18) to produce a closed mold (20) prior to said step of adhering the polyurethane layer (14) to the paint layer (12) (col 5 line 19).

Regarding claim 18, Mohiuddin teaches adhering the polyurethane layer (14) to the paint layer (12) is further defined as reaction injection molding the polyurethane layer (14) onto the paint layer (12) into which the base has been infused and allowing a reaction to take place between an isocyanate component in the polyurethane layer (14) and the paint composition to increase the adhesion between the paint layer (12) and the polyurethane layer (col 2 lines 30-68).

Regarding claim 19, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component outside of the closed mold (20) to form a polyurethane composition and injecting the polyurethane composition into the closed mold (20) and onto the paint layer (12), thereby forming the polyurethane layer (Example 1).

Regarding claim 20, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component in the closed mold (20) to form a polyurethane composition in the closed mold (20) and applying the polyurethane composition onto the paint layer (12), thereby forming the polyurethane layer (col 2 lines 30-68).

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Regarding claim 21, Mohiuddin teaches heating the mold to a temperature of at least 145 degrees F (col 2 lines 53-54).

Regarding claim 22, Mohiuddin teaches a molded article made according to the method as set forth in claim 1 (col 2 lines 30-47 & col 4 lines 25-38).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 2,3,6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohiuddin (4282285) in view of Ramatowski (5256355).

Regarding claims 2 and 3, Mohiuddin does not explicitly teach that the base includes a metal selected from the group of alkali metals, alkaline earth metals, and mixtures thereof and from the group of potassium hydroxide, sodium hydroxide, lithium hydroxide, and mixtures thereof. However Ramatowski teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one

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of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claims 6 and 7, Mohiuddin teaches the spraying as a method of treating the mold surfaces and the layers formed (example 3) but does not explicitly teach spraying the base onto the paint layer. However Ramatowski teaches treating the olefin/ester interpolymer jacket with the base (col 5 lines 1-4). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mohiuddin (4282285) in view of "National Park Service Envirofacts". Mohiuddin does not specifically teach the paint composition comprises water-based latex composition. However "National Park Service Envirofacts" teaches that water based coatings include latex paints. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of "National Park Service Envirofacts" in Mohiuddin's method of molding in order to reduce the use of solvent-based thinners and cleaners (col 2 & 3).

7. Claims 23-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohiuddin (4282285) in view of Ramotowski (5256355) and "National Park Service Envirofacts".

Regarding claim 23, Mohiuddin teaches a method of increasing adhesion between layers of a molded article (10), wherein the molded article (10) comprises a paint layer (12) and a polyurethane layer, said method comprising the steps of: applying a paint composition to a surface (22) of an open mold (18) to form the paint layer (12); applying a base into the paint layer (12); adhering the polyurethane layer (14) to the paint layer (12) in the mold (20) (col 2 lines 30-68). However, Mohiuddin does not teach paint composition that comprises water-based latex composition, spraying an alkali metal hydroxide onto the paint layer. Nevertheless, "National Park Service Envirofacts" teaches that water based coatings include latex paints. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of "National Park Service Envirofacts" in Mohiuddin's method of molding in order to reduce the use of solvent-based thinners and cleaners (col 2 & 3). Furthermore, Mohiuddin teaches the spraying as a method of treating the mold surfaces and the layers formed (example 3) but does not explicitly teach spraying the base onto the paint layer. However Ramatowski teaches treating the olefin/ester interpolymer jacket with the base (col 5 lines 1-4). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2). Ramatowski also teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's

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method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claims 24, Mohiuddin does not explicitly teach that the base includes potassium hydroxide. However Ramatowski teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claim 25, Mohiuddin teaches that the step of infusing the paint layer with the base is further defined as infusing the paint layer with at least 0.2 parts by weight of the potassium hydroxide, based on 100 parts by weight of the paint composition (col 4 lines 23-24 and see claim 24 rejection).

Regarding claim 26, Mohiuddin teaches applying a mold release agent to the surface (22) of the open mold (18, 20) prior to said step of applying the paint composition to the surface (22) of the mold (18, 20) (col 5 lines 5-8).

Regarding claim 27, Mohiuddin teaches closing the open mold (18) to produce a closed mold (20) prior to said step of adhering the polyurethane layer (14) to the paint layer (12) (col 5 line 19).

Regarding claim 28, Mohiuddin teaches adhering the polyurethane layer (14) to the paint layer (12) is further defined as reaction injection molding the polyurethane layer (14) in the closed mold (col 2 lines 30-68).

Regarding claim 29, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component outside of the closed mold (20) to form a polyurethane composition and injecting the polyurethane composition into the closed mold (20) and onto the paint layer (12), thereby forming the polyurethane layer (Example 1).

Regarding claim 30, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component in the closed mold (20) to form a polyurethane composition in the closed mold (20) and applying the polyurethane composition onto the paint layer (12), thereby forming the polyurethane layer (col 2 lines 30-68).

Regarding claim 31, Mohiuddin teaches heating the mold to a temperature of at least 145 degrees F (col 2 lines 53-54).

Regarding claim 32, Mohiuddin in view of Ramotowski and "National Park Service Envirofacts" teaches a molded article made according to the method as set forth in claim 23 (col 2 lines 30-47 & col 4 lines 25-38).

Regarding claim 33, Mohiuddin teaches a method of increasing adhesion between layers of a molded article (abstract) (10), wherein the molded article (10) comprises a paint layer (12) and a polyurethane layer, said method comprising the steps of: mixing a base into a paint composition and applying the paint composition to a surface (22) of an open mold (18) to form the paint layer (12); adhering the polyurethane layer (14) to the paint layer (12) in the mold (20) (col 2 lines 30-68).

However, Mohiuddin does not teach paint composition that comprises water-based latex

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composition and base that is alkali metal hydroxide. Nevertheless, "National Park Service Envirofacts" teaches that water based coatings include latex paints. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of "National Park Service Envirofacts" in Mohiuddin's method of molding in order to reduce the use of solvent-based thinners and cleaners (col 2 & 3). Furthermore, Ramatowski teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claims 34, Mohiuddin does not explicitly teach that the base includes potassium hydroxide. However Ramatowski teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claim 35, Mohiuddin teaches that the step of mixing the paint layer with the base is further defined as mixing the paint layer with at least 0.2 parts by weight of the potassium hydroxide, based on 100 parts by weight of the paint composition (col 4 lines 23-24 and see claim 34 rejection).

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Regarding claim 36, Mohiuddin teaches applying a mold release agent to the surface (22) of the open mold (18, 20) prior to said step of applying the paint composition to the surface (22) of the mold (18, 20) (col 5 lines 5-8).

Regarding claim 37, Mohiuddin teaches closing the open mold (18) to produce a closed mold (20) prior to said step of adhering the polyurethane layer (14) to the paint layer (12) (col 5 line 19).

Regarding claim 38, Mohiuddin teaches adhering the polyurethane layer (14) to the paint layer (12) is further defined as reaction injection molding the polyurethane layer (14) in the closed mold (col 2 lines 30-68).

Regarding claim 39, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component outside of the closed mold (20) to form a polyurethane composition and injecting the polyurethane composition into the closed mold (20) and onto the paint layer (12), thereby forming the polyurethane layer (Example 1).

Regarding claim 40, Mohiuddin teaches reaction injection molding the polyurethane layer (14) is further defined as mixing an isocyanate component and an isocyanate-reactive component in the closed mold (20) to form a polyurethane composition in the closed mold (20) and applying the polyurethane composition onto the paint layer (12), thereby forming the polyurethane layer (col 2 lines 30-68).

Regarding claim 41, Mohiuddin teaches heating the mold to a temperature of at least 145 degrees F (col 2 lines 53-54).

Regarding claim 42, Mohiuddin in view of Ramotowski and "National Park Service Envirofacts" teaches a molded article made according to the method as set forth in claim 33 (col 2 lines 30-47 & col 4 lines 25-38).

6. Claims 43-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohiuddin (4282285) in view of Ramotowski (5256355).

Regarding claim 43, Mohiuddin teaches a method of making a molded article (10), wherein the molded article (10) comprises a paint layer (12) and a polyurethane layer, said method comprising the steps of: mixing the paint layer with a base; providing the paint layer (12); and applying and adhering the polyurethane layer (14) to the paint layer (12) (col 2 lines 30-68). However, Mohiuddin does not teach infusing the paint layer with a base although he does teach premixing with the paint layer. Nevertheless, Ramatowski teaches infusing the olefin/ester interpolymers with the base (col 5 lines 1-4). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claim 44, Mohiuddin teaches that providing the paint layer comprises applying a paint composition to a substrate to form the paint layer (12) (col 2 line 30).

Regarding claim 45, Mohiuddin teaches spraying a paint composition to a surface of a mold (22) to form the paint layer (12) (col 6 line 12).

Regarding claims 46 and 47, Mohiuddin does not explicitly teach that the base includes a metal selected from the group of alkali metals, alkaline earth metals, and

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mixtures thereof and from the group of potassium hydroxide, sodium hydroxide, lithium hydroxide, and mixtures thereof. However Ramatowski teaches that the base is potassium hydroxide (col 5 lines 23-24). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claim 48, Mohiuddin teaches that the step of infusing the paint layer with the base is further defined as mixing the paint layer with at least 0.2 parts by weight of the potassium hydroxide, based on 100 parts by weight of the paint composition (col 4 lines 23-24 and see claim 43 rejection).

Regarding claim 49, Mohiuddin teaches that infusing the paint layer (12) with the base is further defined as mixing the base into the paint composition prior to applying the paint composition to the surface (22) of the mold (col 4 lines 23-25).

Regarding claim 50, Mohiuddin teaches the spraying as a method of treating the mold surfaces and the layers formed (example 3) but does not explicitly teach spraying the base onto the paint layer. However Ramatowski teaches treating the olefin/ester interpolymer jacket with the base (col 5 lines 1-4). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use the teachings of Ramatowski in Mohiuddin's method of molding in order to hydrolyze the ester groups and thereby substitute hydroxyl groups (col 2 lines 36-39, fig 2).

Regarding claim 51, Mohiuddin teaches that the step of spraying the paint layer with the base is further defined as spraying the paint layer with at least 0.2 parts by

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weight of the base, based on 100 parts by weight of the paint composition (col 4 lines 23-24 and see claim 50 rejection).

Regarding claim 52, Mohiuddin teaches that the paint composition comprises a water-based latex composition, a urethane-based composition, an acrylic-based composition or a vinyl-based composition (col 2 lines 48-68 and see claim 33 rejection concerning latex composition).

Regarding claim 53, Mohiuddin teaches applying a mold release agent to the surface (22) of the open mold (18, 20) prior to said step of applying the paint composition to the surface (22) of the mold (18, 20) (col 5 lines 5-8).

Regarding claim 54, Mohiuddin teaches heating the mold to a temperature of at least 145 degrees F (col 2 lines 53-54).

Regarding claim 55, Mohiuddin in view of Ramotowski and "National Park Service Envirofacts" teaches a molded article made according to the method as set forth in claim 43 (col 2 lines 30-47 & col 4 lines 25-38).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang W. An whose telephone number is (571) 272-1997. The examiner can normally be reached on Mon-Fri 7 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaiani can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Wook An
Patent Examiner
Art Unit 1732
March 8, 2006



MICHAEL P. COLAIANNI
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